

What is claimed is:

1. A method of completing a well in a subterranean formation, comprising the steps of:

(a) perforating a first zone in the subterranean formation by injecting a pressurized fluid through a hydrajetting tool into the subterranean formation, so as to form one or more perforation tunnels;

(b) injecting a fracturing fluid into the one or more perforation tunnels so as to create at least one fracture along each of the one or more perforation tunnels;

(c) plugging at least partially the one or more fractures in the first zone with an isolation fluid; and

(d) repeating steps (a) and (b) in a second zone of the subterranean formation.

2. The method of completing a well according to claim 1, wherein the pressurized fluid being injected into the subterranean formation through the hydrajetting tool during step (a) comprises abrasive solids.

3. The method of completing a well according to claim 1, wherein the steps of injecting the fracturing fluid into the first and second zones is performed by the hydrajetting tool, which injects the fluid into the zones at a pressure above that required to fracture the formation.

4. The method of completing a well according to claim 3, further comprising a step of injecting an acidizing fluid into the one or more fractures, so as to etch the one or more fractures and thereby maintain conductivity within the one or more fractures at a later time.

5. The method of completing a well according to claim 1, further comprising the step of moving the hydrajetting tool to the second zone before step (c) is performed.

6. The method of completing a well according to claim 1, further comprising the step of moving the hydrajetting tool to the second zone after step (c) is performed.

7. The method of completing a well according to claim 1, wherein the isolation fluid comprises a solid or semi-solid material.

8. The method of completing a well according to claim 7, wherein the solid material comprises a proppant agent.

9. The method of completing a well according to claim 8, wherein the proppant agent comprises a material selected from the group consisting of silica, a ceramic, and a bauxite.

10. The method of completing a well according to claim 7, wherein the solid material comprises a material selected from the group consisting of paraffin beads, resin solids and PLA.

11. The method of completing a well according to claim 1, wherein the isolation fluid comprises a gel.
12. The method of completing a well according to claim 11, wherein the gel is a cross-linked gel.
13. The method of completing a well according to claim 12, wherein the cross-linked gel comprises PLA beads.
14. The method of completing a well according to claim 1, further comprising the step of removing the isolation fluid from the first zone.
15. The method of completing a well according to claim 14, wherein the step of removing the isolation fluid from the first zone is performed by circulating the isolation fluid out of the wellbore.
16. The method of completing a well according to claim 14, wherein the step of removing the isolation fluid from the first zone is performed by hydrajetting the isolation fluid out of the wellbore.
17. The method of completing a well according to claim 1, wherein each of the one or more fractures has an opening adjacent to the wellbore.

18. The method of completing a well according to claim 17, wherein the opening of each of the one or more fractures is filled with the isolation fluid.

19. The method of completing a well according to claim 17, wherein the isolation fluid fills at least a portion of the wellbore adjacent to each opening of the one or more fractures.

20. The method of completing a well according to claim 19, wherein the isolation fluid also fills the opening of the one or more fractures.

21. The method of completing a well according to claim 1, wherein the hydrojetting tool is kept stationary during step (a).

22. The method of completing a well according to claim 1, wherein the hydrojetting tool rotates during step (a) thereby cutting at least one slot into the first zone of the subterranean formation.

23. The method of completing a well according to claim 1, wherein the hydrojetting tool rotates and/or moves axially within the wellbore during step (a) so as to thereby cut a straight or helical slot into the first zone of the subterranean formation.

24. A method of completing a well in a subterranean formation, comprising the steps of:

(a) perforating a first zone in the subterranean formation by injecting a pressurized fluid through a hydrajetting tool into the subterranean formation, so as to form one or more perforation tunnels;

(b) injecting a fracturing fluid into the one or more perforation tunnels so as to create at least one fracture along each of the one or more perforation tunnels;

(c) plugging at least partially the one or more fractures in the first zone with isolation fluid; and

(d) repeating steps (a) and (b) in a second zone of the subterranean formation.

25. The method of completing a well according to claim 24, wherein the steps of injecting the fracturing fluid into the first and second zones is performed by the hydrajetting tool, which injects the fluid into the zones at a pressure above that required to fracture the formation.

26. The method of completing a well according to claim 25, further comprising a step of injecting an acidizing fluid into the one or more fractures, so as to etch the one or more and thereby maintain conductivity within the one or more fractures at a later time.

27. The method of completing a well according to claim 25, further comprising the step of moving the hydrajetting tool to the second zone before step (c) is performed.

28. The method of completing a well according to claim 25, further comprising the step of moving the hydrajetting tool to the second zone after step (c) is performed.

29. The method of completing a well according to claim 24, wherein the isolation fluid comprises a solid material.

30. The method of completing a well according to claim 29, wherein the solid material comprises a proppant agent.

31. The method of completing a well according to claim 30, wherein the proppant agent comprises a material selected from the group consisting of silica, a ceramic, and a bauxite.

32. The method of completing a well according to claim 29, wherein the solid material comprises a material selected from the group consisting of paraffin beads, resin solids and PLA.

33. The method of completing a well according to claim 24, wherein the isolation fluid comprises a gel.

34. The method of completing a well according to claim 33, wherein the gel is a cross-linked gel.

35. The method of completing a well according to claim 34, wherein the cross-linked gel comprises PLA beads.

36. The method of completing a well according to claim 35, wherein the PLA beads decompose into acid and fluidizes the gel.

37. The method of completing a well according to claim 24, further comprising the step of removing the isolation fluid from the first zone.

38. The method of completing a well according to claim 37, wherein the step of removing the isolation fluid from the first zone is performed by circulating the isolation fluid out of the wellbore.

39. The method of completing a well according to claim 37, wherein the step of removing the isolation fluid from the first zone is performed by hydrajetting the isolation fluid out of the wellbore.

40. A method of completing a well in a subterranean formation, comprising the steps of:

- (a) perforating a first zone in the subterranean formation by injecting a pressurized fluid through a hydrajetting tool into the subterranean formation, so as to form one or more perforation tunnels;
- (b) initiating one or more fractures in the first zone of the subterranean formation by injecting a fracturing fluid into the one or more perforation tunnels through the hydrajetting tool;
- (c) moving the hydrajetting tool up hole;
- (d) pumping additional fracturing fluid into the one or more fractures in the first zone through a wellbore annulus in which the hydrajetting tool is disposed so as to propagate the fracture;
- (e) plugging at least partially the one or more fractures in the first zone with an isolation fluid; and
- (f) repeating steps (a) through (d) in a second zone of the subterranean formation.

41. The method of completing a well according to claim 40, wherein additional fracturing fluid is pumped through the annulus to assist the hydrajetting tool initiate the fracture in the subterranean formation.

42. The method of completing a well according to claim 40, wherein the one or more fractures are formed in a horizontal or deviated portion of the wellbore.

43. The method of completing a well according to claim 40, wherein the one or more fractures are formed in a vertical portion of the wellbore.

44. The method of completing a well according to claim 40, wherein the hydrajetting tool is kept stationary during step (a).

45. The method of completing a well according to claim 40, wherein the hydrajetting tool rotates during step (a) thereby cutting at least one slot into the first zone of the subterranean formation.

46. The method of completing a well according to claim 45, wherein the hydrajetting tool rotates and/or moves axially within the wellbore during step (a) so as to thereby cut a straight or helical slot into the first zone of the subterranean formation.

47. The method of completing a well according to claim 40, wherein the fracturing fluid is pumped down the annulus as soon as the one or more fractures are initiated.

48. The method of completing a well according to claim 40, wherein any cuttings left in the annulus from step (a) are pumped into the fracture during step (d).

49. The method of completing a well according to claim 40, wherein steps (c) and (e) are performed simultaneously.

50. The method of completing a well according to claim 49, wherein the rate of fluid ejected from the hydrajetting tool decreases during the performance of step (c).

51. The method of completing a well according to claim 40, further comprising the step of pumping acid into the wellbore to activate or dissolve the isolation fluid after all of the desired fractures have been formed.

52. The method of completing a well according to claim 40, further comprising the step of circulating the isolation fluid back to the surface after all of the desired fractures have been formed.

53. The method of completing a well according to claim 40, further comprising the step of pumping nitrogen into the wellbore to flush out the wellbore and remove it of the isolation fluid and other fluids and materials that may be left in the wellbore.

54. A method of completing a well in a subterranean formation, comprising the steps of:

(a) perforating a first zone in the subterranean formation by injecting a pressurized fluid through a hydrajetting tool into the subterranean formation, so as to form one or more perforation tunnels;

(b) initiating one or more fractures in the first zone of the subterranean formation by injecting a fracturing fluid into the one or more perforation tunnels through the hydrajetting tool;

(c) pumping additional fracturing fluid into the one or more fractures in the first zone through a wellbore annulus in which the hydrajetting tool is disposed so as to propagate the one or more fractures;

(d) simultaneous with step (c) moving the hydrajetting tool up hole;
and

(e) repeating steps (a) through (d) in a second zone of the subterranean formation.

55. The method of completing a well according to claim 54, wherein the rate of the fracturing fluid being ejected from the hydrajetting tool is decreased during step (d).

56. The method of completing a well according to claim 54, wherein any cuttings left in the annulus from step (a) are pumped into the fracture during step (c).

57. The method of completing a well according to claim 54, wherein the hydrajetting tool is kept stationary during step (a).

58. The method of completing a well according to claim 54, wherein the hydrajetting tool rotates during step (a) thereby cutting at least one slot into the first zone of the subterranean formation.

59. The method of completing a well according to claim 54, wherein the hydrajetting tool rotates and/or moves axially within the wellbore during step (a) so as to thereby cut a straight or helical slot into the first zone of the subterranean formation.

60. A method of completing a well in a subterranean formation, comprising the steps of:

(a) perforating a first zone in the subterranean formation by injecting a pressurized fluid through a hydrajetting tool into the subterranean formation, so as to form one or more perforation tunnels;

(b) initiating one or more fractures in the first zone of the subterranean formation by injecting a fracturing fluid into the one or more perforation tunnels through the hydrajetting tool;

(c) pumping additional fracturing fluid into the one or more fractures in the first zone through a wellbore annulus in which the hydrajetting tool is disposed so as to propagate the one or more fractures;

(d) simultaneous with step (c) moving the hydrajetting tool up hole;

(e) terminating step (c); and

(f) repeating steps (a)–(c) in a second zone of the subterranean formation.

61. A method of completing a well in a subterranean formation, comprising the steps of:

(a) perforating a first zone in the subterranean formation by injecting a perforating fluid through a hydrajetting tool into the subterranean formation, so as to form one or more perforation tunnels;

(b) fracturing the first zone of the subterranean formation by injecting a fracturing fluid into the one or more perforation tunnels;

(c) perforating a second zone in the subterranean formation by injecting the perforation fluid through the hydrajetting tool into the subterranean formation, so as to form one or more perforation tunnels in the second zone;

(d) fracturing the second zone of the subterranean formation by injecting the fracturing fluid into the one or more perforation tunnels; and

(e) pumping enough fracturing fluid into the wellbore during step (d) to plug the fractures in the first zone.

62. The method of completing a well according to claim 61, wherein the fracturing fluid comprises a base fluid, sand, and an additional additive selected from the group consisting of an adhesive and a consolidation agent.

63. The method of completing a well according to claim 62, wherein the fracturing fluid comprises both the adhesive and the consolidation agent.

64. The method of completing a well according to claim 63, wherein the adhesive is SANDWEDGE conductivity enhancer and the consolidation agent is EXPEDITE consolidation agent.

65. A method of completing a well in a subterranean formation, comprising the steps of:

- (a) perforating a first zone in the subterranean formation by injecting a perforating fluid through a hydrajetting tool into the subterranean formation, so as to form one or more perforation tunnels;
- (b) initiating a fracture in the one or more perforation tunnels by pumping a fracturing fluid through the hydrajetting tool;
- (c) injecting additional fracturing fluid into the one or more fractures through both the hydrajetting tool and a wellbore annulus in which the hydrajetting tool is disposed, so as to propagate the one or more fractures;
- (d) plugging at least partially the one or more fractures in the first zone with an isolation fluid;
- (e) moving the hydrajetting tool away from the first zone; and
- (f) repeating steps (a) through (c) for a second zone.

66. The method of completing a well according to claim 66, wherein the step of moving the hydrajetting tool away from the first zone comprises moving the hydrajetting tool up hole.

67. The method of completing a well according to claim 66, wherein the step of moving the hydrajetting tool away from the first zone comprises moving the hydrajetting tool down hole.